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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,558	01/22/2002	Steffen Hofacker	Mo6676/LeA 34,925	7309

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EXAMINER	
BISSETT, MELANIE D	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,558	HOFACKER ET AL.	
	Examiner	Art Unit	
	Melanie D. Bissett	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The rejections based on 35 USC 103 have been altered or maintained to reflect the amended claims.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over BASF as evidenced by Kubitza and in view of Bayer, and vice versa.

4. From a prior Office action:

> BASF teaches two-component coating compositions for aluminum substrates comprising a binder component and hardener component (abstract). The binder component must have at least one active hydrogen-containing compound, suggesting a resin reactive toward isocyanate groups (p. 4 line 32-p. 5 line 6). The hardener component comprises an isocyanate and a silane oligomer (p. 7 lines 2-4). Suitable isocyanates have preferred functionalities of 3-4 (p. 7 lines 24-32), where biurets of hexamethylene diisocyanate are most preferred (p. 7 lines 18-23). Kubitza teaches that conventional biurets of HDI have an isocyanate content of 23.5% by weight and a functionality of greater than 3 (col. 4 lines 55-62). Thus, the preferred use of such compounds in BASF suggests the applicant's claimed polyisocyanate. The silane oligomer is a reaction product of the isocyanate with a coupling agent, where the coupling agent fits the applicant's formula (I) of claims 2-5 (p. 9, all). The two-component coatings of BASF are preferably applied to untreated aluminum as a primer coating for other coatings (p. 12, lines 6-16), and the examples show the application of at least two organic coatings covering the primer coating (examples 3-4).
>
> BASF and Kubitza apply as above, teaching the application of a primer to various substrates, including metal, glass, and plastics (p. 11 lines 28-32). Although BASF teaches the use of top coatings on the primer layers, the reference does not teach the applicant's claimed modified inorganic layer [or the application of the coatings to polycarbonate substrates]. Bayer teaches coatings comprising a carbosiloxane fitting the applicant's formula (III) (p. 4 line 19-p. 5 line 11). Preferred compounds also fit the applicant's claim 9 limitation of formula (III) (p. 6 lines 4-14). The coatings are suitable for improving scratch resistance to substrates including polycarbonates and poly(methyl)methacrylates (p. 14 lines 10-14). Other substrates include metals and glass (p. 14 line 27-p. 15 line 2). Bayer specifically teaches that the adhesion of the coatings may be improved by priming the substrates and that the coatings serve as a top coating to base polyurethane coatings (p. 14 lines 16-25). Therefore, it is the examiner's position that it would have been prima

facie obvious to use the coatings of Bayer as a top coating in the invention of BASF to improve the scratch resistance of the prepared articles. Also, since BASF teaches application to polymeric substrates, it is the examiner's position that it would have been prima facie obvious to apply the coatings to polycarbonate or poly(methyl)methacrylate substrates by Bayer's teaching to provide transparent articles with improved scratch resistance.

5. Additionally, Bayer applies as above, teaching polyurethane base coatings with modified inorganic top coatings. The coatings are useful on polycarbonate substrates. However, the reference does not teach the specific claimed polyurethane base coatings. BASF applies as above, teaching polyurethane base coatings with alkoxysilyl groups. The coatings are useful on plastic substrates and have improved adhesion (abstract). Therefore, it is the examiner's position that it would have been prima facie obvious to employ the primer or base coating of the BASF invention in the structures of the Bayer invention to form coatings having improved adhesion.

6. Claim 1-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over BASF as evidenced by Kubitza et al. and in view of Mager et al., and further in view of Bayer.

7. From a prior Office action:

BASF teaches two-component coating compositions for aluminum substrates comprising a binder component and hardener component (abstract). The binder component must have at least one active hydrogen-containing compound, suggesting a resin reactive toward isocyanate groups (p. 4 line 32-p. 5 line 6). The hardener component comprises an isocyanate and a silane oligomer (p. 7 lines 2-4). Suitable isocyanates have preferred functionalities of 3-4 (p. 7 lines 24-32), where biurets of hexamethylene diisocyanate are most preferred (p. 7 lines 18-23). Kubitza teaches that conventional biurets of HDI have an isocyanate content of 23.5% by weight and a functionality of greater than 3 (col. 4 lines 55-62). Thus, the preferred use of such compounds in BASF suggests the applicant's claimed polyisocyanate. The silane oligomer is a reaction product of the isocyanate with a coupling agent, where the coupling agent fits the applicant's formula (I) of claims 2-5 (p. 9, all). The two-component coatings of BASF are preferably applied to untreated

aluminum as a primer coating for other coatings (p. 12, lines 6-16), and the examples show the application of at least two organic coatings covering the primer coating (examples 3-4).

BASF and Kubitza apply as above, teaching the application of a primer composition to aluminum substrates for automotive body panels (p. 11 lines 28-32). Although BASF teaches the use of top coatings on the primer layers, the reference does not teach the applicant's claimed modified inorganic layer. Mager teaches coating compositions suitable for plastics, metals, and glass, where the coatings comprise a carbosiloxane fitting the applicant's formula (III) (abstract). Exemplified compounds also fit the applicant's claim 9 limitation of the formula (col. 1 lines 56-62). The coatings are useful as anti-graffiti coatings on metallic substrates or on organic coatings, where the application to vehicles is noted (col. 2 lines 25-32). Thus, it is the examiner's position that it would have been prima facie obvious to use the coatings of Mager's invention as a top coating in BASF to provide anti-graffiti properties to the prepared articles.

BASF, Kubitza, and Mager apply as above, where both BASF and Mager teach coating polymeric substrates (see Mager, col. 2 lines 25-32, stating that the coatings may be applied to plastics for improving mechanical strength). However, the references do not specify the polymeric substrates claimed by the applicant. Bayer teaches a similar top coating, where the coatings are known to improve the scratch resistance of polycarbonates and poly(methyl)methacrylates (p. 14 lines 10-14). Thus, it would have been prima facie obvious to apply the coatings of BASF and Mager to polycarbonates or poly(methyl)methacrylates to form transparent articles having improved mechanical strength and scratch resistance.

Response to Arguments

8. In response to the applicant's arguments that there is no disclosure to coat a polycarbonate substrate with the claimed coatings, it is the examiner's position that the combined teachings would lead one of ordinary skill in the art to such an article.

9. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re*

Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to use the top coatings of Bayer because of their improved scratch resistance, and it would have been obvious to apply the coatings to a polycarbonate substrate to form conventional transparent articles having improved scratch resistance. Also, it would have been obvious to use the polyurethane coatings of BASF in the articles of Bayer because of their improved adhesion. One would reasonably expect success, since both references suggest plastic substrates, polyurethane base coatings, and top coatings. One would expect that the scratch resistance would be improved by the teachings of Bayer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Melanie D. Bissett
Patent Examiner
Art Unit 1711

mdb